

What is claimed is:

1. An optical apparatus, comprising:

a photographic optical unit having a fixed focal length;

a light amount adjusting unit disposed in an optical path of said photographic optical unit, said light amount adjusting unit varying an aperture to adjust an amount of light and changing an F-number by varying said aperture;

an image pickup device for picking up an optical image formed by said photographic optical unit;

a mode switching member for selecting a dynamic image taking mode and a static image taking mode; and

a controller for controlling the variation in said aperture by said light amount adjusting unit;

wherein said controller sets different values of said F-number of said light amount adjusting unit at said fixed focal length of said photographic optical unit in accordance with a state selected by said mode switching member.

2. The optical apparatus according to claim 1, wherein, when said mode switching member selects said static image taking mode, said controller sets an F-number for a maximum aperture of said light amount adjusting unit in said static

image taking mode to be larger than an F-number for a maximum aperture of said light amount adjusting unit in said dynamic image taking mode at said fixed focal length of said photographic optical unit.

3. The optical apparatus according to claim 1, wherein, when said mode switching member selects said static image taking mode, said controller sets an F-number for a minimum aperture of said light amount adjusting unit in said static image taking mode to be smaller than an F-number for a minimum aperture of said light amount adjusting unit in said dynamic image taking mode at said fixed focal length of said photographic optical unit.

4. The optical apparatus according to claim 3, wherein said image pickup device has a plurality of light receiving pixels repeatedly arranged with a predetermined pitch, and a condition below is satisfied:

$$0.2 < F_{\text{min}} \times \lambda / P < 4.4$$

where P represents the pitch of said repeatedly arranged light receiving pixels,  $\lambda$  represents a reference wavelength for image taking of a light ray sensed by said image pickup device, and  $F_{\text{min}}$  represents the F-number for the minimum aperture of said light amount adjusting unit in said static image taking mode.

5. An optical apparatus, comprising:

a photographic optical unit including a movable optical component for varying a focal length;

a light amount adjusting unit disposed in an optical path of said photographic optical unit, said light amount adjusting unit varying an aperture to adjust an amount of light and changing an F-number by varying said aperture;

an image pickup device for picking up an optical image formed by said photographic optical unit;

a mode switching member for selecting a dynamic image taking mode and a static image taking mode; and

a controller for controlling the variation in said aperture of said light amount adjusting unit;

wherein said controller sets different values of said F-number of said light amount adjusting unit at the same focal length of said photographic optical unit in accordance with a state selected by said mode switching member.

6. The optical apparatus according to claim 5, wherein, when said mode switching member selects said static image taking mode, said controller sets an F-number for a maximum aperture of said light amount adjusting unit in said static image taking mode to be larger than an F-number for a

maximum aperture of said light amount adjusting unit in said dynamic image taking mode at said same focal length of said photographic optical unit.

7. The optical apparatus according to claim 5, wherein, when said mode switching member selects said static image taking mode, said controller sets an F-number for a minimum aperture of said light amount adjusting unit in said static image taking mode to be smaller than an F-number for a minimum aperture of said light amount adjusting unit in said dynamic image taking mode at said same focal length of said photographic optical unit.

8. The optical apparatus according to claim 7, wherein said image pickup device has a plurality of light receiving pixels repeatedly arranged with a predetermined pitch, and a condition below is satisfied:

$$0.2 < F_{\text{min}} \times \lambda / P < 4.4$$

where P represents the pitch of said repeatedly arranged light receiving pixels,  $\lambda$  represents a reference wavelength for image taking of a light ray sensed by said image pickup device, and  $F_{\text{min}}$  represents the F-number for the minimum aperture of said light amount adjusting unit in said static image taking mode.

9. An optical apparatus, comprising:

a photographic optical unit including a variable power optical component moving along an optical axis to perform a variable power operation;

an image pickup device for picking up an optical image formed by said photographic optical unit;

a mode switching member for selecting a dynamic image taking mode and a static image taking mode; and

a controller for controlling a movement of said variable power optical component of said light amount adjusting unit;

wherein said controller varies a variable power range of said variable power optical component in accordance with a state selected by said mode switching member.

10. The optical apparatus according to claim 9, wherein said controller controls a movement of said variable power optical component in a range from a wide end to a tele end when a state selected by said mode switching member is said dynamic image taking mode, and

said controller controls a movement of said variable power optical component in a range from a position shifted somewhat to said tele side from said wide end to said tele end when a state selected by said mode switching member is said static image taking mode.

11. An optical apparatus, comprising:

a photographic optical unit having an optical axis;

an image pickup device for picking up an optical image formed by said photographic optical unit, said image pickup device having a first image size area for performing image pickup and a second image size area for performing image pickup including said first image size area and larger than said first image size area;

a mode switching member for selecting a dynamic image taking mode and a static image taking mode; and

a controller for controlling image pickup of said image pickup device;

wherein said controller switches between said first image size area and said second image size area in accordance with a state selected by said mode switching member.

12. The optical apparatus according to claim 11, wherein said controller switches to said first image size area when a state selected by said mode switching member is said dynamic image taking mode, and

said controller switches to said second image size area when a state selected by said mode switching member is said static image taking mode.

13. An optical apparatus, comprising:

a photographic optical unit including a movable optical component moving along an optical axis;

an image pickup device for picking up an optical image formed by said photographic optical unit;

a mode switching member for selecting a dynamic image taking mode and a static image taking mode; and

a controller for controlling a movement of said movable optical component of said photographic optical unit;

wherein said controller varies a moving range of said movable optical component in accordance with a state selected by said mode switching member.

14. An optical apparatus, comprising:

a photographic optical unit including a movable optical component;

an image pickup device for picking up an optical image formed by said photographic optical unit;

a mode switching member for selecting a dynamic image taking mode and a static image taking mode; and

a controller for controlling a movable operation of said optical component of said photographic optical unit;

wherein said controller varies a movable range of

said optical component in accordance with a state selected by said mode switching member.

15. An optical apparatus, comprising:

a photographic optical unit having an optical axis;

a correcting optical component provided on said optical axis of said photographic optical unit, said correcting optical component being driven to incline said optical axis for correcting a blur of an image;

an image pickup device for picking up an optical image formed by said photographic optical unit, said image pickup device having a first image size area for performing image pickup and a second image size area for performing image pickup including said first image size area and larger than said first image size area;

a mode switching member for selecting a dynamic image taking mode and a static image taking mode; and

a controller for controlling image pickup of said image pickup device;

wherein, when said correcting optical component is driven, said controller switches between said first image size area and said second image size area of said image pickup device in accordance with a state selected by said mode switching member.



16. The optical apparatus according to claim 15, wherein, when said correcting optical component is driven, said controller switches to said first image size area when a state selected by said mode switching member is said dynamic image taking mode, and

said controller switches to said second image size area when a state selected by said mode switching member is said static image taking mode.

17. The optical apparatus according to claim 15, wherein, when said correcting optical component is driven, said controller switches to said first image size area when a state selected by said mode switching member is said dynamic image taking mode, and

when said image blur cannot be corrected only by the driving of said correcting optical component, said controller changes a position of said first image size area on said second image size area to correct said image blur in addition to the driving of said correcting optical component.

18. An optical apparatus, comprising:

a photographic optical unit including a movable optical component for varying a focal length;

a light amount adjusting unit disposed in an optical

path of said photographic optical unit, said light amount adjusting unit varying an aperture to adjust an amount of light and changing and F-number by varying said aperture;

an image pickup device for picking up an optical image formed by said photographic optical unit, said image pickup device having a first image size area for performing image pickup and a second image size area for performing image pickup including said first image size area and larger than said first image size area;

a mode switching member for selecting a dynamic image taking mode and a static image taking mode; and

a light amount controller for controlling the variation in said aperture of said light amount adjusting unit, said light amount controller setting different values of said F-number of said light amount adjusting unit at the same focal length of said photographic optical unit in accordance with a state selected by said mode switching member; and

an image pickup controller for controlling image pickup of said image pickup device, said image pickup controller switching between said first images size area and said second image size area of said image pickup device in accordance with a state selected by said mode switching member when said movable optical component is driven.

19. The optical apparatus according to claim 18, wherein, when said movable optical component is driven, said image pickup controller switches to said first image size area when a state selected by said mode switching member is said dynamic image taking mode, and

said controller switches to said second image size area when a state selected by said mode switching member is said static image taking mode.

20. The optical apparatus according to claim 18, wherein, when said mode switching member selects said static image taking mode, said light amount controller sets an F-number for a maximum aperture of said light amount adjusting unit in said static image taking mode to be larger than an F-number for a maximum aperture of said light amount adjusting unit in said dynamic image taking mode at said same focal length of said photographic optical unit.

21. The optical apparatus according to claim 18, wherein, when said mode switching member selects said static image taking mode, said light amount controller sets an F-number for a minimum aperture of said light amount adjusting unit in said static image taking mode to be smaller than an F-number for a minimum aperture of said light amount adjusting unit in said dynamic image taking mode at said

same focal length of said photographic optical unit.